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STATE VALUATION OF RAILROADS. SOME OF THE PROBLEMS.

BY CHARLES HANSEL.

IN 1900, an exhaustive and intelligent survey was made of every railroad in the State of Michigan—including rolling-stock in and out of the State, and every item owned, controlled or operated by the railroads—in order to determine their value for the purpose of taxation. The problems which arose in this study were numerous and complex, and the Governor decided to appoint a commission, composed of engineers from outside of the State, to adjudicate the various questions propounded by the engineer in charge of the survey. The writer was a member of this commission and fully appreciates the difficulty of establishing the value of a railroad, either for the purpose of taxation or ascertaining its general value to the State, or to all the States.

The Sunberg Committee of the Minnesota State Senate has lately made public a report setting forth the results of its study on the railways of Minnesota. This report does not advise us as to the object in view in attempting to place a valuation upon the property of the several railroads in that State. The terms "cost" and "value" are frequently used synonymously, but it is not always apparent that cost and value are directly related.

If the topography, climate, distribution of fuel and water, and the competition by means of navigation were equal throughout the State, and if an infinite mind had directed the development of the country in the location and construction of its railways, it might be practicable to establish the value and, also, a flat rate for service per mile for all railroads throughout the State. The value of a railroad to an undeveloped country, where it furnishes the only means of transport, cannot be measured by the same rule which may be applied to a more populous section.

Comparisons between the railroads of Great Britain and the United States have been frequently attempted, generally to the disadvantage of this country. Such comparisons are of little value because of the widely different conditions which were attendant upon the building of the first railways in both countries. Great Britain was a developed country, with large industries throughout the land; a heavy traffic awaited more convenient means of transportation than could be afforded by the canal and the highway; and, in the building of the first railroads, the entire subject of location and construction was carefully investigated and supervised by Parliament. Money was cheap. The railroads were carefully and substantially built, and were certain to secure an abundant traffic.

In the United States, the situation was directly opposite. The country was unexplored; little was known of the conditions west of the Mississippi; and there were not more than ten million white inhabitants. Money was dear. There were few factories, and no assurance of traffic to support the railroads. There was no government direction in the location or construction of the railroads; consequently, no large plan was followed in their building. The courage of the individual, unsupported by the assurance of traffic, inaugurated the great system of railroads which to-day is unrivalled.

The average cost of all railways in the United Kingdom is $270,000 per mile. The average cost of all railroads in the United States is $64,000 per mile.

England developed her railroads; the United States was developed by the railroads.

The conditions have been reversed since 1830. The problem with the railroads to-day is not so much how to get more business as how to carry the existing traffic at low cost. Modern methods of construction were not applied in the original building of any of the railroads in the United States. They were built along the line of least resistance, without much regard to grade or curvature. The economic demands of modern traffic have required, upon the part of such railroads as the Pennsylvania, the Baltimore and Ohio, the Vanderbilt lines, the Harriman lines and other trunk lines, that they should expend enormous sums of money on improvements which are, in a large measure, merely corrective of original defects in location and construction which resulted from former methods and from enforced economy due to the high price of money and the uncertainty of earnings. The policy of the original constructors was to build as cheaply as possible. To cheapness of construction was sacrificed shortness of line and flatness of grade and curvature. This policy was, perhaps, the better one at the time it was adopted, because the country was sparsely settled, and the most sanguine failed to grasp the growth that was to follow. We must, therefore, keep in mind all the items of cost, from the very inception of the railroad to the present time, in an attempt to determine the whole cost; and even though we may be able to determine its cost in this careful manner, we may not be able to determine its value.

In its physical condition and in the quality of its service, the greater part of the mileage of our trunk-line systems equals, and in many respects excels, the railroads of Great Britain and the Continent. The rates of carriage for both passenger and freight are below the rates charged for similar service in any other country, and, at the same time, enormous dividends are paid; while in Great Britain, with rates of carriage considerably higher than here, the dividends paid are entirely unsatisfactory to the holders of the shares; and the last report of the railroads of Great Britain calls serious attention to the low net earnings of the railways and public carriers, and suggests that it may be necessary to advance the rates.

In Great Britain, no new work or general improvement can be carried out without the detailed plans and estimates of cost being first submitted to Parliament; and that body decides whether or not the work is to be done. If the proposed construction is authorized, an issue of fresh shares must be sold to provide money for the improvement. This system naturally increases the capital account of the railroads year by year, the theory being that the stockholder of to-day should not have his dividend diminished for improvements which are for the benefit of the stockholder of to-morrow. The net earning value of the improvements has evidently been overestimated, and the market value of shares is, on most English railways, constantly falling. In the United States, a considerable amount of development and many permanent improvements have been made from the earnings, and the stockholder has been compelled to await the time when, through the great development of the country, he may receive dividends earned beyond the necessity for improvements and maintenance.

The expenditures called for by the 1907 orders (in the United States) for equipments alone is enormous. One road has ordered 6,700 freight-cars, exclusive of undelivered orders of last year's contracts; 110 passenger-cars, and 191 locomotives, besides 21 due from 1906 orders. Another railroad has ordered 150 locomotives, 4,000 forty-ton box-cars, and 1,000 fifty-ton steel cars. We do not know whether this equipment is to be charged to operating expenses or otherwise. The items are cited as an index of the enormous demand for increased equipment.

Generally speaking, the capital stock issue of the railroads of this country represents increment or appreciation, franchise value and good-will, as most of the railroads have been built from the sale of bonds; and it is only within the last few years that the common stock has been offered to the public for the purpose of making definite improvements or acquiring additional trackage or other facilities. The present value of the stock, therefore, represents the increased value of the property; and the problem seems to be to determine what percentage of this increment is due to the stockholders of the railroads, and what percentage is due to the State. There should be a fair division of this increased value. Since the existing stock is now in the hands of the public, however, and not in the possession of the railroad creating it, it seems difficult to consider any retroactive division of the increment. We should determine how the future increment will be shared between the railroad and the State, whose servant it is.

The work in Michigan was designed to fix a value upon the railroads of that State for the purpose of taxation. The value was divided into physical and franchise, or intangible, value, and the method of determining franchise value in that State was to capitalize the net earnings at five per cent. and add the amount to the estimated value of the property, obtained by adding item to item of the cost of reproduction. Under this system, if the net earning is $1,000 per mile, $20,000 is added to the value of the railroad for the purpose of taxation; and had this $1,000 been expended upon the property, thereby eliminating net earnings and creating physical value and increased efficiency, or if it had been absorbed in operating expenses, the railroad would have saved $19,000 per mile in its taxable value.

If the purpose of determining the physical and franchise value of the railroads within a State is to secure equal taxation on all property, treating all property on a common theory, it would appear that all corporations and business of every kind operating under the protection of patents, good-will, etc., should be assessed on physical and intangible value. The intangible, or use and occupancy, value of a railroad is similar to the patent, trade-mark or good-will value of a business. Many of the manufacturing industries charge a large amount of their capital issue to patents and good-will; and, indeed, in many cases, the costly factory would have small value for any other purpose than the specific one it was built to serve. The United States Steel Corporation might be selected as a notable example.

All business organizations and corporate companies, other than public utilities, are free to limit their productions, and are not compelled to operate at a loss in order to preserve their charter rights. In the case of a railroad or other public utility, however, certain service must be continuously given for the benefit of the public, whether this service is performed at a profit or at a loss to the corporation. It is fair to presume that neither the railroads, or public utilities, nor the private industries, or industrial corporations, would care to eliminate the intangible, patent, trade-mark or good-will value in estimating the total value of their respective properties, except, perhaps, for the purpose of taxation.

Since the railroad and other public utilities are common carriers and the servants of the people, and are subject to special police regulation which requires them to perform public services which, in some cases, are unprofitable, may not the value of a railroad be properly considered on a different theory from that applied to other property not operating under a similar charter?

The earning power of a railroad is gauged by the volume of business, the cost per ton or passenger mile and the fixed charges. The cost per train mile is approximately the same whether the train has a capacity of two hundred tons or four hundred tons. It is evident, therefore, that the earning capacity of a railroad which, by reason of its flat grades and easy curvature, can haul four hundred tons per train would be, on a given tonnage, nearly one hundred per cent. more than the earnings of another railroad which, with the same equipment and crew, could haul but two hundred tons per train. It will be frequently found that the road capable of carrying the greater tonnage, at smaller cost per ton mile, would cost much less to build than the road of smaller capacity costing more to construct, for the reason that the first-named road lies in easier country or has been located with greater skill. Assuming, however, that each road costs $50,000 per mile to build, one earns $2,000 per mile net, the other $1,000 per mile net. According to the Michigan theory, the first road would be taxed on a basis of $90,000 per mile, the second on a basis of $70,000 per mile. This scheme may work out fairly well for purposes of taxation, but the value of these two roads, viewed by an investor, would be in favor of the road earning $2,000 per mile, as it has the capacity of earning twice the dividends. It is, of course, difficult to insure accurate and equal accounting to determine the net earnings of a railroad, and the gross earnings cannot be considered as a measure of the value because of the difference in capacity to haul freight cheaply. The gross earnings of one road, by reason of the business carried, may be greater and its net earnings less than that of another railroad which, by reason of its location, organization, etc., is able to carry its business at a much smaller cost per ton per mile. If it were practicable to determine what the net earnings should be, it would be practicable to base one value of a railroad entirely upon its net earnings. Net earnings are properly declared after fixed charges and operating expenses are paid. In order to provide a check on the fixed charges, it seems necessary to fix upon a plan for determining the cost of the physical property of the railroad.

The independence of each State complicates many of the difficulties. One of the problems before the Michigan Commission was to determine the value of a railroad terminal as compared with the value of the road per mile outside the terminal. This question is difficult to determine even though the terminals and all the mileage lie within a single State; but, as is frequently the case, both terminals may lie without the State. The value of a railroad for the purpose of conducting traffic is its continuity of track, its physical condition, its terminals and general trackage, and its motive power and rolling-stock. Generally speaking, the oldest railroads have the largest terminal properties, and, as the country developed, these terminal properties became more and more valuable; and, in some cases, they became the most important feature in the value of the railroads because, by reason of owning these large terminal properties, they were able to develop and furnish terminal facilities for new railroads seeking entrance to the cities in which the terminals were located. The value of these terminals to the old roads is often sufficient to offset the excessive cost of the original construction of the line between and the improvements which have followed.

There are cases where it would be economical for a railroad to abandon its line entirely and build through different territory between two large cities, thereby saving in operating cost for carrying the same tonnage between the same terminals. This saving in cost of operation, if capitalized at five per cent., would more than equal the cost of building a new line. Towns and industries, however, have grown up along the old line which must be served, and railroads are generally prohibited from acquiring parallel lines. Consequently, the higher cost of carrying between the terminals must continue; and, if a new organization constructs a line in the easier territory suggested, and secures satisfactory terminals, it is apparent that the traffic of the new company can be conducted at a smaller cost, providing, however, they can secure the tonnage. The securing of business depends not only on convenient terminals and efficient organization, but also upon the contract agreements the road has with other railroads which are in a position to give or withhold the business.

It seems to be generally conceded that many of the railroads of this country have abused their corporative privileges and that the State and Federal Governments should take supervision over their general conduct. There is danger, however, of unjust legislation if each State works independently. In some States, statutes have been enacted covering the control of some specific part of a railroad, such as the crossing of one railroad with another at grade, notably in Illinois, Ohio and Indiana. Under the new statutes in Indiana, a new railroad building through that State is compelled to pay all the cost of installing the grade crossing, together with the installation of a complete system of interlocking and signalling and its operation and maintenance forever. While this law was intended to protect traffic at grade crossings, it puts upon the junior road a very large expense.

The cost of a railroad is one thing. The value of a railroad may be measured in many different ways according to the necessity for its continued operation. The investor gauges its value according to its ability to pay fixed charges and dividends. The State may measure its value on the broader lines of the greatest good to the greatest number, or it may narrow its view by considering its tax-producing appraisal. The town or village or industry which has had birth and life by reason of the railroads view its value from the point of view of local selfish interest; and so we find many meanings for the word "value" as applied to railroads.

If we take the broad view of its general usefulness we may question the propriety of placing a greater value on one part of a railroad than on another part or we may not say that one railroad is more valuable than another to the State; but rather that, since it is the continuity of track and the service rendered that make a railroad valuable, every foot of it is just as valuable as every other foot, regardless of the difference in cost between the various sections. After all, we may not be far wrong when we say that, since the ability to pay taxes and dividends depends upon the ability to earn, the true measure of value is its net earning.

The railroad has another value not directly measured by the standard of money—and that is, its value as one of the great promoters of temperance, industry and loyalty. The railway management long since uttered its ultimatum against the use of intoxicants, and to-day we find no more potent force for the promotion of temperance than the railroads. A man who drinks need not hope for employment on a railroad. There are no more loyal servants than the railroad commands. All of the various branches of the service are thoroughly organized and year by year are gleaning, from experience and study, the knowledge of how to secure the best results. The real working forces of our railroads are constantly alert to the necessity of vigilance and progress.

If any one doubts the earnestness and ability of the railroad forces let him attend a convention of the American Railway Association, the Maintenance of Way Association or the Master Car-Builders, Master Mechanics, or the Signal Associations. He will learn that day by day, for years, these men have worked on the solution of all the multifarious problems attendant upon the building, maintaining and operation of railroads. If the railroads were able and willing to work to their adopted standards, we would find the number of accidents greatly reduced.

The majority of railroad men would welcome State or Federal supervision of the railroads so that they might have the power of the law behind their specifications. Individual States have attempted radical legislation as a corrective of the evils by forcing a blanket rate for carrying passengers. This will not correct the trouble, nor is it even justice.

What we need is a safe and efficient railway system throughout the land, which will give impartial service. We need more railroad facilities. We need to know the method of issuing and placing the securities which form so large a part of our investments. We want the railroad to earn money enough to build, equip and operate according to the highest-class specifications which it is reasonable to impose under the various conditions. Can we not accomplish this by Federal supervision?

The first step should be to secure knowledge of actual conditions by a careful appraisal of the costs, the physical condition, the operating expenses, and the business available. While this appraisal is being made, chartered public accountants or Government examiners should prepare a statement of the accounts, covering, as far as possible, all the construction charges. Having ascertained the physical condition, we should compel the installation of the improvements necessary to bring each particular road up to the standard determined upon for its class.

Knowing all the conditions, we must sanction rates which will provide revenue sufficient to enable the roads to carry out the improvements we require. There should be Government inspection of the accounting, of the physical conditions and of the operating methods; and these inspectors should be shifted continually, so that no man might check his own work.

In order to accomplish this, it seems necessary to organize the several State Railroad Commissions into a national body, the chairman of which might properly be a Federal appointee. This national body could then formulate regulations which would insure uniform standards and could conduct all the work outlined without involving the question of State rights. All accidents could be investigated by the engineers of the several States and reported to the national body, thus insuring uniform action and avoiding large expense. The national organization could formulate and recommend legislation, so that we might have uniform laws to govern the railroads.

It is likely that this national body would be of such great importance to each State that the best men would be selected to serve upon it. By this means, the importance of the Railroad Commission of each State would be increased and the whole country would be benefited. The railroads would know exactly what was to be expected; and, while the road might be inter-State so far as boundary lines were concerned, its operation would be simplified by having the same conditions to meet in every State. We should avoid any attitude which would tend to throttle progress in any of the details of a railroad; we should govern in such manner as to invite capital to the building of much-needed facilities; and we should, and can, place a premium on the honest and able administration of every railroad.

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